



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,373	03/25/2004	Toshio Furukawa	119235	4739
25944	7590	02/10/2006		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER SMITH, RICHARD A	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/808,373

Applicant(s)

FURUKAWA, TOSHIO

Examiner

R. Alexander Smith

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 12, 17-19 and 21 are finally rejected under 35 U.S.C. 102(e) as being anticipated by U.S. 6,731,889 to Nakayama.

With respect to the abnormal data excluding unit, see column 11, lines 19-37. This description appears to meet the limitations of the abnormal data and an abnormal data excluding unit as claimed for the above claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12-15 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama in view of U.S. 6,278,857 to Monji et al.

Nakayama teaches all that is claimed as discussed in the above rejections of claims 1-4, 12, 17-19 and 21 except for a phase determining unit determining a phase of each electrostatic-latent-image carrying member based on position of each of the plurality of monochromatic calibration images on the image carrying member detected by the position detecting unit; and a phase control unit controlling each of the plurality of image forming units to correct the color registration errors caused by a difference between the phase of each electrostatic-latent-image carrying member, wherein the phase control unit includes a drive control unit controlling each driving unit to drive each electrostatic-latent-image carrying member to rotate, allowing the phase of each electrostatic-latent-image carrying member to be identical with each other, wherein the phase control unit includes an exposure timing control unit controlling exposure timing at which each exposure unit exposes the circumferential surface of the electrostatic-latent-image carrying member, wherein the calibration-image generating unit controls the each of the plurality of image forming units to form the plurality of monochromatic calibration images over at least a half-cycle length of a circumference of the electrostatic-latent-image carrying member.

Monji et al. discloses an image forming device having a phase determining unit (figure 1) determining a phase of each electrostatic-latent-image carrying member based on position of

each of the plurality of monochromatic calibration images on the image carrying member detected by the position detecting unit; and a phase control unit controlling each of the plurality of image forming units to correct the color registration errors caused by a difference between the phase of each electrostatic-latent-image carrying member, wherein the phase control unit includes a drive control unit controlling each driving unit to drive each electrostatic-latent-image carrying member to rotate, allowing the phase of each electrostatic-latent-image carrying member to be identical with each other (figure 8), wherein the phase control unit includes an exposure timing control unit controlling exposure timing at which each exposure unit exposes the circumferential surface of the electrostatic-latent-image carrying member (figures 5-7) in order to prevent deterioration of the print quality. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the image forming apparatus, taught by Nakayama, to include the phase determining unit, the phase control unit, the drive control unit, and the exposure timing control unit, as suggested by Monji et al. in order to prevent deterioration of the print quality.

With respect to claim 15 and to form the plurality of monochromatic calibration images over at least a half-cycle length of a circumference of the electrostatic-latent-image carrying member: over at least a half cycle is only considered to be the "optimum" values of the cycles to form the calibration images of the image forming device disclosed by Nakayama as modified by Monji et al., as stated above, that a person having ordinary skill in the art would have been able to determine using routine experimentation based, among other things, on the assuring that the measurements taken address enough of the latent image carrying member to assure that the

measurements taken include the required registration range to assure correct control of the latent image carry member. See In re Boesch, 205 USPQ 215 (CCPA 1980).

5. Claim 16 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama in view of U.S. 2002/0136570 to Yamanaka et al.

Nakayama teaches all that is claimed as discussed in the above rejections of claims 1-4, 12, 17-19 and 21 except for the each of the at least one data group includes at least three data elements.

Yamanaka et al. discloses a well known technique to reduce spurious errors and erroneous data by taking more than one data reading and using a mean, or average, to assure that the data is representative of the system being measured [0157-158]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have each data group including at least three data element, as claimed, in order to help assure that the data is representative of the system's state and is less likely to be an error not representative of the system's performance.

Response to Arguments

6. Applicant's arguments filed November 22, 2005 and the statement of substance of interview filed on January 25, 2006 have been fully considered but they are not persuasive.

With respect to the arguments in the response and in the statement for the interview regarding the abnormal data excluding unit: These arguments are not persuasive because the applicant in both arguments cite embodiment 2 and related figure 7 which clearly do not address the abnormal data excluding unit. Nakayama in introducing embodiment 2 describes the problems with embodiment 1 and it is here that he discloses the abnormal-data excluding unit for embodiment 1 and describes it as a problem to which embodiment 2 overcomes. It is embodiment 1 that has the abnormal data excluding unit.

With respect to the measuring unit and the monochromatic calibration image, this appears to be addressed throughout the specification and in particular column 8 line 25 through column 11 line 37. The data being collected by the CPU and stored for various control processes, the patches being formed in single color or multi-color patches (column 10, lines 8-14), a color registration correction unit (column 9, lines 5-51), the patches being for color tint detection and for density detection; details with respect to color tint detection and density detection along with correction; details with respect to the sensors and timing and synchronization circuit which also are part of the color registration correction circuitry since they affect color registration. This appears to the examiner as meeting the limitations as claimed by Applicant.

Applicant should note that the Examiner did consult with Examiner Ngo on February 3, 2006 regarding Nakayama as applied to the independent claims and whether Nakayama disclosed an abnormal data unit and color registration.

Allowable Subject Matter

7. Claims 20, 22 and 23 are allowable.
8. Claims 5-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.
9. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related image forming devices.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. Alexander Smith whose telephone number is 571-272-2251. The examiner can normally be reached on Monday through Friday from 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'R. Alexander Smith', with a stylized, cursive script.

R. Alexander Smith
Primary Examiner
Technology Center 2800

RAS
February 6, 2006